Relevance of Measurement of Electrode Impedance following the Standard ANSI/AAMI DF80-2003

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Skriv abstrakt i testruden: Alle forfattere skal anføres; foredragsholderen skal understreges, max 200 ord:

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Measuring impedances with defibrillator-electrodes mounted 'gel-to-gel', following the standard ANSI/AAMI-DF80-2003, are not representative for the impedances during discharge, with the electrodes applied to skin.
For a comparative study of 2 brands of Defi-Pads a pork-loin with rind was choosen as a sufficient substitute for a patient. With four Defi-pad-positions on the skin-side, a protocol was followed, using 'paired tests' to reduce the influence of position, drying over time, changes in the defibrillator over time and changes in the skin due to discharges.
The pork-loin skin-side was wiped with towels and air-dried 40 minutes.
28 Bi-Phasic discharges of 100 Joule was given, using a Medtronic Lifepak 20 defibrillator, which measures the impedance during discharge. For each of the first 12 discharges, electrodes and position was changed. The following 16 was given in series of 4 between changes.
The impedances measured 170-220 Ohm, Fig. 1.
With SD=3,8 Ohm, significance >99,95% (omitting one pair), the difference between the brands was 17 Ohm average, dissipating 20% of the energy with a normal patientimpedance of 70-80 Ohm.
This is not recognized from the 'AC Large-Signal-Impedance' of 1,1 Ohm for both brands, following ANSI/AAMI-DF80-2003.

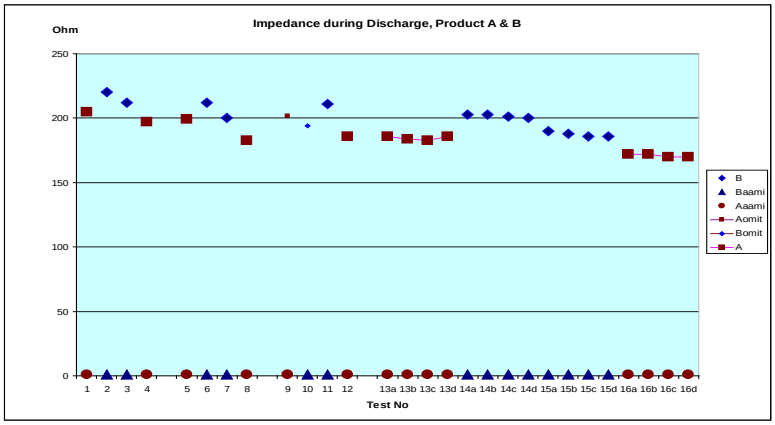

Fig. 1

Abstrakt sendes til: gert.kokholm@tdcadsl.dk inden den 1. august 2007
Svar vedrørende eventuel deltagelse i konkurrencen udsendes senest den 20. august 2007